

## Claims

1. A detector for a device for measuring radioactive areas, said device having two electrodes (1; 2), between which a voltage V is applied, and also having a counter gas (Z), characterized in that the electrodes (1;2) are arranged on opposite surfaces (4;5) of a support (3), and further characterized in that channels (6) are provided which pierce the electrodes (1;2) and the support (3), and as a result the counter gas (Z) is in contact with the electrodes (1;2) via the channels (6).
2. A detector according to Claim 1, characterized in that the electrodes (1;2) are arranged directly on the support (3), and the support (3) consists of an electrically non-conducting material.
3. A detector according to Claim 1, characterized in that an insulating layer is in each case provided between the electrodes (1;2) and the support (3).
4. A detector according to Claim 1 or 3, characterized in that the support (3) consists wholly or partially of a ceramic material.
5. A detector according to one of the Claims 1 to 4, characterized by a plurality of first and second electric conductors (8;9) arranged over the channels (6), the first conductors (8) extending in a first direction (X) and the second conductors (9) extending in a second direction (Y),

and characterized also in that the conductors (8;9) are connected to an evaluation unit.

6. A detector according to one of the Claims 1 to 5, characterized in that the diameter of the channels (6) is between 0.2 and 0.005 mm.
7. A detector according to one or more of the Claims 1 to 6, characterized in that the spacing between adjacent channels (6) is 0.1 to 1 mm.
8. A detector according to one or more of the Claims 1 to 7, characterized in that the spacing between the electrodes (1;2) is adjusted, preferably in the range from 3 to 10 mm, according to the energy of the particles or quanta to be measured.
9. A detector according to one or more of the Claims 1 to 7, characterized in that the pressure of the counter gas can be varied according to the energy of the particles or quanta to be measured.
10. A measuring device having a detector according to one or more of the foregoing claims, characterized in that the detector is arranged in a housing (10), at least one wall of which is transparent to the type of radiation to be measured.
11. A measuring device with a detector according to one or more of the Claims 1 to 9, characterized in that the counter gas is a mixture of neon, helium and methane.

